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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/318,045	05/25/1999	ALAN R. NEUHAUSER	0004332-0074	9843
7590	03/02/2004		EXAMINER	
Eugene L. Flanagan III ST.ONGE STEWARD JOHNSON & REENS LLC 986 Bedford Street Stamford, CT 06905-5619			LERNER, MARTIN	
			ART UNIT	PAPER NUMBER
			2654	
			DATE MAILED: 03/02/2004	27

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/318,045	NEUHAUSER ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Martin Lerner	2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 December 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 to 18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 to 4, 7, and 11 to 18 is/are rejected.  
 7) Claim(s) 5, 6 and 8 to 10 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10 April 2003 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Withdraw Final Rejection/Reopen Prosecution***

In view of the Appeal Brief filed on 29 December 2003, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, Appellants must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Appellants' arguments, filed with the Appeal Brief, have been fully considered and are persuasive. The finality of the last Official Action has been withdrawn.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 to 3, 7, 11, 13, 14, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by *Thomas et al.* ('427).

Regarding independent claims 1, 13, and 16, *Thomas et al.* ('427) discloses a system and method for decoding code symbols in an audio signal, comprising:

"means for receiving an audio signal in which a plurality of message symbols have been incorporated so that the message symbols are inaudible when the audio signal is reproduced audibly, the plurality of message symbols being contained within a predetermined message as a plurality of code symbols, the predetermined message symbols being represented by first and second code symbols incorporated in and displaced in time in the audio signal with at least one code symbol representing a different one of the message symbols being incorporated in the audio signal positioned in time between the first and second code symbols" – a corresponding decoder 18 at selected stages of distribution is used to monitor the UBC signals comprised of ID information messages added to a program source 16 ("means for receiving") (column 3, lines 37 to 40: Figure 1); the predefined segments can include pre-defined sub-audible time slots of an audio program source ("an audio signal") ("the message symbols are inaudible when the audio signal is reproduced audibly") ("a plurality of code symbols . . . displaced in time in the audio signal") (column 3, lines 22 to 29: Figure 1); a universal broadcast code encoded signal having a predefined information message format has segments 2-3 storing encoded data representing a source identification code, segments 5-10 represent call letters, channel number and local time for each uniquely assigned local television station, segments 11-14 store encoded information message data

representing system number and channel number for cable information or satellite identification (“a plurality of message symbols”) (column 4, line 66 to column 5, line 30: Figure 4); Figure 4 shows at least four symbols in time slots, with at least one symbol (e.g. local tv station id) between two other symbols (e.g. network id and show id);

“means for accumulating a first signal value of a first code symbol representing a predetermined message symbol and a second signal value of a second code symbol representing the same predetermined message symbol” – an overall checksum can be included in segments 29-30 if desired for overall symbol reliability of all 30 segments (column 5, lines 27 to 30); a “checksum” is defined as “an error detection scheme in which each transmitted message is accompanied by a numeric value based on the number of bits in the message”; thus, *Thomas et al.* ('427) discloses a checksum, where the decoder adds together (“accumulates”) the number of bits (“a first signal value”) in segment 2-3 (“a first code symbol representing a predetermined message symbol”), the number of bits (“a second signal value”) in segment 5-10 (“a second code symbol representing the same predetermined message symbol”), the number of bits in segment 11-14, the number of bits in segment 15-18, and the number of bits in segment 20-25 (Figure 4); the decoder compares the total number of bits obtained with the checksum in the UBC code to ensure data reliability; Figure 4 shows the UBC code repeats in time;

“means for examining the accumulated first and second signal values to detect the predetermined message symbol represented by the first and second code symbols” – the UBC code (“the predetermined message symbol”) with segments 2-3, 5-10, 11-14,15-18, and 20-25 (“the first and second code symbols”) is recovered by data

decoding block 102 with the checksum (“the accumulated first and second signal values”) to improve signal reliability (column 7, lines 12 to 39: Figure 7).

Regarding claim 2, *Thomas et al.* ('427) discloses an overall checksum can be included in segments 29-30 if desired for overall symbol reliability of all 30 segments (column 5, lines 27 to 30); a “checksum” is defined as “an error detection scheme in which each transmitted message is accompanied by a numeric value based on the number of bits in the message”; thus, when the decoder decodes the UBC code, it adds together the number of bits in segment 2-3 (“the first signal value”), the number of bits in segment 5-10 (“a second signal value”), etc. to derive the total number of bits (“a third signal value derived from the first and second signal values”); the total number of bits is compared to the checksum in the decoder to reliably decode the UBC code (“to detect the predetermined message symbol based on the third signal value”).

Regarding claim 3, *Thomas et al.* ('427) discloses an overall checksum can be included in segments 29-30 if desired for overall symbol reliability of all 30 segments (column 5, lines 27 to 30); the checksum represents adding the number of bits in each segment of the UBC code; addition is a linear combination.

Regarding claim 7, *Thomas et al.* ('427) discloses an overall checksum can be included in segments 29-30 if desired for overall symbol reliability of all 30 segments (column 5, lines 27 to 30); when the decoder decodes the UBC code, it adds together the number of bits in segment 2-3 (“the first signal value”), the number of bits in segment 5-10 (“a second signal value”), etc.; thus, the UBC code (“predetermined

message symbol") is decoded by looking at both the number of bits in segment 2-3 ("the first signal value"), the number of bits in segment 5-10 ("the second signal value"), etc.

Regarding claims 11, 14, and 17, *Thomas et al.* ('427) discloses a UBC code for monitoring television viewing and listening habits of individual audience members or panelists of cooperating households (column 2, lines 53 to 63: Figure 1); an audio pick-up probe 119 positioned near the monitored TV receiver 112 is used for extracting the UBC codes; non-intrusive probes 119 can include a microphone for audio signal ("an acoustic transducer for transducing an acoustic audio signal to an electric signal"); a UBC decoder 120 is coupled to probe 119 and applies its decoded output to a data collection and forward unit 122 ("a memory for storing indications of detected message symbols") (column 7, lines 40 to 61: Figure 8).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 12, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Thomas et al.* ('427) in view of *Jensen et al.* ('490).

Regarding claim 4, *Thomas et al.* ('427) discloses a checksum, which is a linear combination of signal values, but omits producing a third signal value as a non-linear function of the first and second signal values. However, *Jensen et al.* ('490) discloses

Art Unit: 2654

amplitude adjustment factors which serve to adjust amplitudes of code frequency components; amplitudes of the relative frequency components are adjusted so that they will be masked during encoding to be inaudible to human hearing (column 13, lines 23 to 53); the adjusted amplitudes at the decoder are also non-linear functions of the original amplitudes because the amplitudes at the encoder are non-linear functions of the original amplitudes; *Jensen et al.* ('490) discloses that the signal amplitudes may be measured as an integration, root-mean-square or relative discrete value to evaluate masking ability (column 7, lines 27 to 38); at least the root-mean-square is a "non-linear function" of the original amplitude. It would have been obvious to one having ordinary skill in the art to combine the signal values by a non-linear function as suggested by *Jensen et al.* ('490) in the UBC monitoring system of *Thomas et al.* ('427) for the purpose of measuring the adjusted amplitude of the signal by taking into account the masking ability of the signal on human hearing.

Regarding claims 12, 15 and 18, *Thomas et al.* ('427) discloses a UBC code for monitoring television viewing and listening habits of individual audience members or panelists of cooperating households. (Column 2, Lines 53 to 63: Figure 1) *Thomas et al.* ('427) omits a housing for the system adapted to be carried on the person of an audience member for transmitting stored data for use in producing audience estimates. However, *Jensen et al.* ('490) discloses that the system may be enclosed in a housing 382 that is sufficiently small in size to be carried on the person of an audience member participating in an audience estimate survey (column 27, lines 34 to 48; column 28, lines 6 to 13: Figure 17). It would have been obvious to one having ordinary skill in the art to

include a housing for the system adapted to be carried on the person of an audience member as suggested by *Jensen et al.* ('490) in the UBC code monitoring system of *Thomas et al.* ('427) for the purpose of facilitating portability.

#### ***Allowable Subject Matter***

Claims 5, 6, and 8 to 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicants' arguments submitted in the Appeal Brief have been considered but are moot in view of the new grounds of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (703) 308-9064. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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